

REMARKS/ARGUMENT

Applicant responds herein to the Office Action dated October 15, 2004.

The general objection to the opening phrase of claims 2-40 has been noted and corrected. Amendments were introduced so that the phrase "A connector for a medical instrument system" has been replaced with --The connector for medical instruments--. Since the Examiner has shown a preference for using "The" as the first word of dependent claims, the other dependent claims have been similarly amended.

The applicant has noted the rejection of claims 2, 4, 14 and 27-32 under the second paragraph of 35 U.S.C. §112 and the claims have been accordingly amended responsive thereto. The Examiner is therefore respectfully requested to reconsider and rescind the §112 rejections.

Substantively, claims 1-4, 12-17, 23, 24 and 26 stand rejected on grounds of anticipation by (newly cited) Itabashi (6,010,369). Claim 22 is stated to be obvious over the aforementioned Itabashi reference. Claims 8-11 and 18-21 are stated to be obvious over Itabashi, in view of Nierlich (5,660,567). Claim 25 stands rejected on grounds of obviousness over Itabashi and, lastly, claims 27-40 are stated to be obvious over Itabashi, in view of Hood (5,324,297). Reconsideration is requested in view of the following remarks.

Claims 1, 12, 27, 33 and 35 are independent..

Independent claim 1 is directed to a connector which is recited in the preamble of claim 1 to be "removably attachable to a socket having a first electrode to allow the electric power to be supplied to the medical instrument."

The medical instrument comprises (according to claim 1) a projection protruding in a moving direction and a second electrode that has "an exposed contact portion". The exposed contact portion "being located peripherally around the projection". Lastly, the connector includes a connector shell extending in the moving direction, "about and spaced way from the projection in a manner that forms a groove therebetween".

Insofar as claim 1 recites that the connector shell extends "about and spaced away from the projection", it unambiguously conveys and defines that the "projection" is located more radially inward, as compared to the connector shell. In other words, the shell extends about and

is spaced away from the projection. Indeed, the drawing figures and the description of the present invention show (see, for example, Figure 5), the projection 266 located centrally on the connector (plug) and the shell surrounding it. There is a space between the shell and the projection and the space that constitutes the claimed groove.

The Office Action has now turned to Itabashi as the primary reference, and this reference anchors all of the rejections of the claims, whether on grounds of anticipation or obviousness. Respectfully, Itabashi does not show the structure of independent claim 1, nor of any of the independent claims.

The Office Action (paragraph 10) states that Itabashi “discloses a connector (plug) 1 removably attached to a socket 5 (attachable to medical instruments)...”. The connector (plug) 1 referenced in the Office Action can be easily discerned in Figure 3 of this reference. The socket 5 is also seen in Figure 3.

The Office Action identifies a plurality of electrode elements 48, with exposed portions formed as elongated contact portions, located peripherally around the projection 40. The sentence in the Office Action which bridges pages 3 and 4 reads: “The electrode elements of the second electrode are provided on a peripheral surface of the projection.” The Office Action also identifies a connector shell 50 extending in the moving direction and spaced away from the projection to form a groove 58 therebetween.

Respectfully, the Office Action commingles and confuses elements recited in claim 1 relative to the connector plug, by finding those elements of the connector plug on the socket side. The socket, in fact, is not even claimed substantively in claim 1. That is, the element referred to in the Office Action as the connector shell 50 is clearly associated, as can be seen in Figure 3 of this reference, with the socket 5. The connector shell is not on the connector plug and, in fact, no connector plug is shown on the connector/plug of Itabashi.

Because of the confusion arising from combining elements from both the plug and the socket in the prior art, the Office Action statement at the top of page 4 of the Office Action: “A height of the connector shell from a bottom surface of the groove is higher than that of the projection from the bottom surface of the groove.” is difficult to comprehend.

Compare the corresponding structure of the claimed plug as, for example, illustrated in Figure 5 of the instant application. The connector shell surrounds (in Figure 5) the centrally located projection, forming the groove therebetween. The bottom of the groove is located where the lead line from reference numeral 297 touches. In the context of Figure 5, it makes sense to speak of the relative heights of the connector shell and the projection, measured from the bottom of the groove. It simply makes no sense, and it is illogical to even speak of a “height” when one mates the plug 1 with the socket 5 shown in Figure 3 of the cited reference.

Furthermore, contrary to the Office Action, and as is apparent from Figure 4 and Figure 6C of the cited reference, the electrical, exposed contacts 48 are not formed on what is termed in the Office Action as central projection 40, shown in Figure 4 and in Figure 6C. Rather, the contacts are laid in grooves that are formed on the part identified by reference numeral 10 in Figures 4 and 6C.

One of the objectives behind the evolution of the plug of Figure 5 of the instant application was to protect and make inaccessible the electrical contacts that are formed on the central projection. In the cited reference, those contacts are exteriorly exposed, despite the fact that they are located within grooves that are visible in Figure 6C of the cited reference.

For the foregoing reasons, it is respectfully submitted that the Office Action has misinterpreted and intermingled elements from the plug and the socket in an attempt to force fit the language of claim 1 onto the cited prior art, which is inappropriate.

The foregoing remarks apply to the other independent claims as well. Thus, independent claim 12 is directed to the connector, i.e., to the plug, wherein the plug itself is defined to include a projection provided at the central area, a second electrode provided on a peripheral surface of the projection, and a connector shell provided away from the projection. Like claim 1, claim 12 does not define a plug and socket arrangement where the connector shell is provided by the socket, rather than by the plug, as asserted in the Office Action. In the same vein, independent claim 27 defines the plug as having a projection formed in the central area and a connector shell formed outside the projection and spaced apart a distance from a peripheral area of the projection and an electrode contact being formed on the peripheral area of the projection at the position

surrounded by the connector shell. Thus, the claim requires that the connector shell is a component part of the plug, not the socket, contrary to the assertion in the Office Action.

The foregoing remarks are also applicable to independent claims 33 and 35. Inasmuch as the remaining claims in the application are all dependent and derive from one or the other of the aforementioned independent claims, it is respectfully submitted that none of the claims of the application define subject matter that can be compared to or that is readable upon any structure in the primary Itabashi reference.

In summary, Itabashi, et. al. does not disclose a structure of the connector shell, and the claimed inventions differ from the invention of Itabashi and are not obvious therefrom. Further, it is not obvious from the prior art to apply the present structure to the plug (the plug provided on the medical instrument side), and a socket connected to the plug having such a structure is not obvious.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

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